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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,657	08/28/2003	Kenichi Nakatate	Q76816	6914

7590 07/31/2006

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EXAMINER	
DEHGHAN, QUEENIE S	
ART UNIT	**PAPER NUMBER**
1731	

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/649,657	NAKATATE ET AL.	
	Examiner	Art Unit	
	Queenie Dehghan	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) *22-26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 August 2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-21 in the reply filed on July 10, 2006 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magome et al. (2002/0145711) in view of Urano et al. (English translation of JP Abstract 2000-103629).

5. Regarding claims 1, 9, and 10, Magome et al. disclose an apparatus comprising a container (6) filled with a gas containing hydrogen ([0103], figure 1), an optical element of silica glass, such as a lens, accommodated in the container, and an excimer laser emitting UV light, ([0032], [0057]), wherein the optical element and light source are aligned so that the light is incident on the optical element (figure 1). However, Magome et al. fail to disclose the pressure of the hydrogen gas. Urano et al. teach placing a quartz glass article in an atmosphere comprising hydrogen with a partial pressure of 0.1-10 atm (0.1-10kgf/cm2) when irradiating the glass article with UV light (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the partial pressure of hydrogen as taught by Urano et al. in the apparatus of Magome et al. in order to inhibit the increase loss of UV transmission of the optical elements, as taught by Urano et al.

6. Regarding claims 5-7, Magome et al. disclose a shut-off valve disposed on the inlet of the container that is connected to an external element for supplying the gas into the container (figure 1, 2, [0060]). Magome et al. further disclose an outlet (93) for the hydrogen gas (figure 1, [0069]).

7. Regarding claim 8, Magnum et al. fail to disclose the concentration of the hydrogen gas. Urano et al. teach using pure hydrogen. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the pure hydrogen gas of Urano et al. in Magome et al. apparatus in order to ensure enough hydrogen is present to prevent the UV irradiation degradation.

8. Claims 11 and 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagiwara et al. (6,222,610) in view of Urano et al. (English translation of JP Abstract 2000-103629).

9. Regarding claims 11, Hagiwara et al. disclose a container filled with a gas containing hydrogen (col. 2 lines 33-37, col. 12, lines 23-28). Furthermore, Hagiwara et al. disclose the container having a first light transmission window (9A in figure 1), and an optical element in the container (9B in figure 1), wherein the optical element is aligned to receive light incident upon the transmission window (figure 1, col. 6 lines 8-11). However, Hagiwara et al. fail to disclose the pressure of the hydrogen gas used in the container. Urano et al. teach placing a quartz glass article in an atmosphere comprising hydrogen with a partial pressure of 0.1-10 atm (0.1-10kgf/cm^2) when irradiating the glass article with UV light (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the partial pressure of hydrogen as taught by Urano et al. in the apparatus of Hagiwara et al. in order to inhibit the increase loss of UV transmission of the optical elements, as taught by Urano et al.

10. Regarding claims 15-17, Hagiwara et al. disclose shut-off and check valves disposed on the inlet of the container that is connected to an external element for supplying the gas into the container. Hagiwara et al. further disclose an outlet for the hydrogen gas (figure 2, col. 7 line 64 to col. 8 line 15, abstract).

11. Regarding claim 18, Hagiwara et al. fail to disclose the concentration of the hydrogen gas. Urano et al. teach using pure hydrogen. It would have been obvious to

one of ordinary skill in the art at the time the invention was made to utilize the pure hydrogen gas of Urano et al. in Hagiwara et al. apparatus in order to ensure enough hydrogen is present to prevent the UV irradiation degradation.

12. Regarding claims 19-21, Hagiwara et al. disclose a light transmission window that is a lens (9A) and an optical element that is a lens (9B) as well (figure 2, col. 6 lines 8-11). Hagiwara et al. also disclose a container further comprising a second light transmission window, arranged to transmit light incident upon the first transmission window after the light is transmitted through the optical element (9C in figure 2).

13. Claims 2-3 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magome et al. (2002/0145711) in view of Urano et al. (English translation of JP Abstract 2000-103629), as applied to claim 1 above, and Hagiwara et al. (6,222,610) in view of Urano et al. (English translation of JP Abstract 2000-103629), as applied to claim 11 above, and further in view of Fujinoki et al. (English machine translation of JP 2000-095535). Magome et al., Urano et al., and Hagiwara et al. fail to disclose an optical element that has been subjected to a heat treatment. Fujinoki et al. teach heat treating an optical element in a hydrogen atmosphere before accommodating in the container, wherein the pressure of the hydrogen atmosphere is 10 atm ($10kgf/cm^2$) and the temperature is 300-450°C ([0019]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the heat treatment of Fujinoki for the optical elements placed in the container of Magome et al., Urano et al., and Hagiwara et al. in order to provide for an optical element that has high endurance for irradiation of an UV laser, as taught by Fujinoki et al.

14. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magome et al. (2002/0145711) in view of Urano et al. (English translation of JP Abstract 2000-103629), as applied to claim 1 above, and Hagiwara et al. (6,222,610) in view of Urano et al. (English translation of JP Abstract 2000-103629), as applied to claim 11 above, and further in view of Ohtsu et al. (6,793,980). Magome et al., Urano et al., and Hagiwara et al. fail to disclose the concentration of the hydrogen in the gas atmosphere. Ohtsu et al. teach an atmosphere of a nitrogen gas containing 3% vol. Hydrogen for irradiating a glass plate with an excimer laser (col. 10 lines 53-59, col. 7 lines 21-29). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the hydrogen concentration of Ohtsu et al. in the container of Magome et al., Urano et al., and Hagiwara et al. in order to provide for a reducing environment that is below the explosion limit of the hydrogen gas, as taught by Ohtsu et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Queenie Dehghan whose telephone number is (571)272-8209. The examiner can normally be reached on Monday through Friday 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Q Dehghan

ERIC HUG
PRIMARY EXAMINER